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Ms Anne Pearson
Chief Executive
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Cc: The Hon Josh Frydenberg MP - Minister for the Environment and Energy
The Hon Anthony Roberts MP - Minister for Industry, Resources and Energy
Mr Adam Marshall MP - Parliamentary Secretary for Renewable Energy
Dr Alan Finkel - Chief Scientist of Australia

Dear Ms Pearson

Draft Determination - Local Generation Network Credits

The City of Sydney welcomes the opportunity to make this submission to the Australian Energy Market Commission (the Commission) on its draft determination on the local generation network credits rule change request submitted by the City of Sydney, the Total Environment Centre and the Property Council of Australia.

Full network charges are levied equally on both remote and local generators, notwithstanding that the output of local generators is consumed by neighbouring buildings and blocks, contributing to lower network operating expenditure and deferred network investment.

The Commission should delay its final determination in order to address inadequacies in its draft determination, better consider alternative proposals, and await outcomes of the independent review into the National Electricity Market currently underway.

The rule change proposed an economically-reflective network credit to local generators to redress the inadequacy of existing network regulations and charges for uptake of efficient local generation.

In its draft determination, the Commission has rejected the City's proposal, instead proposing what it considers to be a more preferred rule to impose new obligations on networks in relation to information about network constraints.

The Commissions preferred rule does not adequately address market distortions or inequities identified in the rule change proposed by the City of Sydney, Property Council and Total Environment Centre.

Instead, it mandates a process already initiated on a voluntary basis by a significant number of networks, via the network opportunities (constraints) mapping initiative of the Institute for Sustainable Futures.

The City is deeply disappointed with the Commission's draft determination. The modelling commissioned or evidence presented by the Commission is insufficient to justify the wholesale rejection of the rule change proposal.

The future electricity supply system in Australia will involve more local generation than is evident today. Absence of rational network pricing can lead to sub-optimal sizing and location of local generation, and the growth of private wire and behind-the-meter installations that reduces network utilisation and increases consumer prices.

The rule change provides a major opportunity to better manage the growth of local electricity generation and optimally plan for the network of the future. It would contribute to an orderly transition and integrate local generation and new business models.

The City's submission provides compelling reasons why the Commission should reverse its draft decision and accept the City's rule change.

The City also submits that the draft determination should not be finalised prior to the COAG instigated review *Blueprint for Energy Security in the National Electricity Market* (the Blueprint) by Australia's Chief Scientist Alan Finkel.

The Blueprint terms of reference specifically include the impact of carbon mitigation policies at both the Federal and State level on energy markets, the Australian Government's commitments at Paris and the integration of climate and energy policy.

This will have implications for the City's rule change and the Commission would be well advised to delay its final determination until after the Blueprint is finalised to ensure that its recommendations are consistent.

At its March 2016 workshop in Sydney, the Commission also identified a spectrum of rule changes that might be considered. These included an expanded system of network payments, avoided transmission use-of-system charges, a locational credit payment and a broad based credit payment.

It is disappointing that the Commission decided to abandon further investigation into these alternatives and did not engage further with the City of Sydney, the Property Council and Total Environment Centre before making the draft determination.

The City requests the Commission to enter into further engagement on alternatives which the parties expected before the draft determination. The City's submission also proposes three alternatives for the Commission to consider.

Developing a consensus on how best to integrate local generation into the future of the overall electricity supply system is warranted in response to the rule change request - whether or not this happens in the way envisaged in the rule change.

In the past five years, eight out of 12 of Australia's most emissions intensive power generators have closed[1]. Combined with recent reliability issues in Tasmania and South Australia, and the imminent closure of more large scale thermal generation, there is a also a compelling case for the Commission to consider whether the City's rule change would lead to better reliability outcomes.

If the Commission is unable to establish regulatory arrangements to plan for the future of the network such as the growth of local generation, the course of the rule change

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[1] http://www.afr.com/news/politics/josh-frydenberg-says-coal-on-the-decline-and-gas-and-renewables-needed-20160726-gqehv6

assessment points to a need to reform both the rule making process and the National Electricity Objective.

The Commission should delay its final determination beyond December 2016 in order to sufficiently explore these options and address inadequacies in its draft determination.

For further information about the City's submission please contact the City's Commercial Manager Green Infrastructure, Chris Barrett on (02) 9265 9004 or at cbarrett@cityofsydney.nsw.gov.au

Yours sincerely

Monica Barone
Chief Executive Officer

Enclosure: Submission to Australian Energy Market Commission - Draft Determination - Local Generation Network Credit

SUBMISSION TO THE
AUSTRALIAN ENERGY MARKET COMMISSION

DRAFT DETERMINATION –
LOCAL GENERATION NETWORK CREDITS

This submission responds to the draft determination by the Australian Energy Market Commission on the proposal for local generators to receive payments that reflect reduced use of networks to send locally generated electricity to consumers

Recommendations

The City of Sydney maintains that the original rule change proposal is a better solution for the efficient uptake of local generation than the Commission's preferred rule, which will not effectively address the market distortions identified by the City of Sydney, Property Council and Total Environment Centre.

If the Commission will not adopt the original rule change proposal, the City submits the Commission should develop and adopt a revised rule change based on options outlined in this submission:

- Limiting the scope and eligibility of Local Generation Network Credits.
- Adding a Local Generation Network Credits obligation to the Commissions more preferred rule change.
- Exempt local generation from transmission network charges.
- The Australian Energy Market Commission should delay its final determination to better consider evidence, conduct a more thorough engagement on alternative opportunities, and await outcomes of the independent review *Blueprint for Energy Security in the National Electricity Market* and Australia's ratification of the Paris Agreement on Climate Change.

Introduction

This submission responds to the draft determination by the Australian Energy Market Commission (the Commission) on the Local Generation Network Credits (LGNC) rule change request submitted by the City of Sydney (the City), the Total Environment Centre (TEC) and the Property Council of Australia (PCA).

The City has actively promoted the roll-out of decentralised energy to reduce emissions, improve efficiency and reduce electricity bills through its Decentralised Energy Master Plans.

These Master Plans demonstrated current regulatory regimes were designed for a different era of centralised one-way energy supply and act as a barrier to decentralised energy.

The City, TEC and the Property Council identified an economically reflective payment to local generators as a key regulatory reform to modernise electricity rules in line with observed trends in technologies, consumer preference, and to redress the inadequacy of existing regulations and charges for efficient uptake of local generation.

In its draft determination, the Commission has rejected the rule change proposal in its entirety. The Commission concluded existing mechanisms are sufficient to incentivise efficient local generation, and proposes to make a more preferred rule that imposes some new obligations on networks in relation to information provision about network constraints.

The rule change proponents do not accept the Commission has provided a robust case to demonstrate existing mechanisms are sufficient to incentivise efficient volumes of local generation, or that the rule change would not deliver net benefits.

The submission will respond to the evidence in the draft determination. Whilst the City maintains the original rule change is the preferred option, the submission will also outline other options for regulatory change that respond to the Commission's concerns in the draft determination.

Failure by the Commission to amend energy market regulation for local generation would represent a missed opportunity to establish rational pricing arrangements for the network of the future. The current regulations will lead to inefficient outcomes such as more expensive network upgrades and lower network utilisation (through behind the meter and private network solutions) with impacts on consumer prices.

If energy market rules cannot be modernised within the current framework, the growth of arrangements to evade the electricity network will accelerate and disillusionment with regulatory processes will build.

It is increasingly evident to a diverse range of government, industry and community stakeholders that the National Electricity Objective will need to be amended to incorporate climate change if energy rules are to retain currency with changing technologies, consumer choices and climate policy (especially with Australia's pending ratification of the Paris Climate Agreement).

It is also noted that system security was beyond the scope of these proceedings but local generation can play a critical role in maintaining secure supply as Australia transitions to a low-carbon electricity system.

These are especially important issues given the changing energy generation mix, recent reliability events in Tasmania and South Australian, and Australia's pending ratification of the Paris Climate Agreement coming into force this month.

It is strongly recommended the Commission delays its final determination to better consider the case for Local Generation Network Credits.

This submission contains the following parts.

- Introduction
- Part A - About the rule change
- Part B - Response to the Draft Determination
- Part C - Plausible alternatives must be considered
- Part D - Feedback on rule change process
- Part E - Other important issues
- Conclusion

Part A - About the rule change

The proposed rule change is based on the following broad principles which have not been adequately responded to by the Commission with its draft determination or alternative proposal.

- Cost-reflective network charges are crucial to establish a framework for the future of electricity supply systems.
- There should be equitable treatment of locally generated electricity.
- The network costs to deliver power from local generators to local consumers should be lower than to deliver power from large remote power plants.
- Local network credits should reflect the lower costs of local generators without increasing overall system costs.

In early 2014, the Total Environment Centre and the City of Sydney commissioned the Institute for Sustainable Futures to prepare a report on options for calculating benefits of local electricity generation and consumption.

The report investigated different options for network payments to reward local generation and/or local consumption of electricity. These options included a credit payable to local generators because they make more limited use of network infrastructure and contribute to mitigating peak demand events. This is called a Local Generation Network Credit (LGNC). Another option was a reduced network charge paid by the consumer of the locally generated electricity.

In mid-2014, the City commissioned the Institute for Sustainable Futures to prepare an issues paper setting out key issues in relation to local generation (copy available on request). The issues paper served as the basis for extensive engagement with key stakeholders. This engagement established that, overall, stakeholders were receptive to the concept of a Local Generation Network Credit. The alternative option of a reduced network charge to the electricity consumer was rejected as being impractical to implement, and largely achieved by a credit paid to the generator.

Historically in Australia there has been little consideration to including alternative forms of power in the electricity supply system in an efficient and effective manner. Other advanced markets have significantly higher installed capacity of smaller-scale decentralised generation in their networks.

The high centralisation of Australia's system of supply by global standards is itself a risk for electricity customers in the future.

Also, there is uncertainty and risk on future electricity consumers if a continuing subsidy is offered to heavily-depreciated, highly-centralised coal fired power stations at the expense of investment in new, higher-efficiency, low-carbon generation (e.g. trigeneration) and local renewables.

Australian energy network rules are designed to equalise the costs of energy supply to consumers, irrespective of where the energy comes from. The current system of

tariffs does not acknowledge the differences in costs of delivering electricity. At the very best, any differences in costs are heavily disguised.

Thus, a consumer in Sydney pays an equivalent cost to have energy transported from the Snowy, Gunnedah or Broken Hill as from the house (or office block) next door. At the same time, local energy generation can improve system-wide efficiency and defer or avoid costly upstream network expenditure. This value is not currently recognised.

Example - taking account of location in new investment

An investor is looking to invest, and has a choice of two locations. One is a very large roof top in a regional city with good insolation characteristics. Multiple commercial customers are located close by, and the area has good growth prospects. The other is a remote field far from customers but close to the site of a power station that is close to end of life and a very old transmission line.

The cost of connection may be identical. In fact, they may be lower for the remote location because there is spare capacity in the short term.

From the point of view of future network costs, it is clearly preferable to locate generation closer to the customers (and the load growth). But there are no signals to generators that the remote location is much more expensive to service in the long run. By perpetuating the current model, future network costs are higher than a system of charges that includes a credit for local generation.

To overcome this paradigm, a rule change proposal was submitted the Commission in July 2015. The rule change would improve financial rewards to local generators (such as office buildings with generators in the basement) when they export power to the public electricity grid. It would also reduce consumer electricity prices (by comparison to what they would otherwise be) over the longer term.

The rule change proposes a system of Local Generation Network Credits to reward local generators for benefits that they provide in supplying electricity during peak demand and for reducing the need for demand-related augmentation. Potentially they may also reduce network replacement costs and lead to lower network tariffs over the long term.

Network credits can be relatively inexpensive to implement and administer, and to increase the number and output of new and existing local generators. While the payment is made to generators, generators are able to pass the credit on to consumers through pricing.

The Australian Electricity Regulator would need to develop detailed guidelines that network operators must follow when calculating network credits including a published schedule of network credits.

The structure of network credits should be included in the public consultation on each network operator tariff structure statement. This would also assist in integrating the application of network credits with tariff setting and network planning.

Part B – Response to the Draft Determination

Existing mechanisms are insufficient (page i)

- *"In considering the rule change request, the AEMC assessed and consulted on the effectiveness of the existing mechanisms in the NER, including the recent reforms of cost-reflective distribution tariffs that are in the process of being implemented. These mechanisms provide incentives or impose obligations on DNSPs to consider non-network solutions, and create opportunities for providers of non-network solutions to address system limitations.*

- *"These mechanisms are generally effective in incentivising efficient investment in embedded generation. They are targeted at the circumstances where embedded generation (and other non-network solutions) can reduce network costs ….*

In its draft determination, the Commission has rejected the City's rule change proposal in its entirety. The Commission concluded existing mechanisms are sufficient to incentivise efficient local generation in particular focussing on Network Support Payments.

However, the Commission has not demonstrated the effectiveness of existing mechanisms to incentivise efficient local generation. Notably, the Commission has not provided any evidence to demonstrate the transaction costs of negotiating NSPs are viable for local generators.

As the Commission notes, total network support payments and avoided Transmission Use of System (TUoS) charges currently paid to providers of non-network solutions by all DNSPs in the NEM is in the range of $11-13 million.

> Network support and avoided TUoS support payments identified by the Commission are **less than 0.03 per cent** of the approximately $45 billion network expenditure approved by the Australian Energy Regulator (AER) from 2010-15. Clearly there is a market failure.

Even acknowledging the context of surplus network capacity due to over-investment referred to by the Commission, it is still not credible to use such paltry expenditure as evidence of an effective mechanism.

Fundamentally, there is a paucity of publicly available data as to the scale, nature or duration of payments to local generators under the current rules. What information the Commission did obtain (and only after the public consultation process, rather than in preparing for it) establishes that payments to local generators are very modest.

Some distribution networks recognise a role for distributed generation to help manage network costs in some parts of their network and have looked to distributed generators to more effectively deliver network services. However, there are fundamental flaws with the current approach.

First, there is a lack of transparency and certainty on the scale and duration of payments. Second, there is a lack of clear price signals for distributed generation. Third, there seems to be an unwillingness to look beyond individual network constraint points to the cumulative benefit of more distributed generation.

Existing mechanisms for network support are ad-hoc, uncertain, inconsistent, time-consuming, geographically constrained, and time-limited and the transaction costs are prohibitive to most small and medium scale generators.

Existing network support payments are asymmetric and opaque in character. Local generators are at a significant disadvantaged in dealing with network service providers.

Existing mechanisms for network support payments are also skewed toward larger scale systems as Class 5A generators under the National Electricity Rules are not eligible for avoided TUoS payments.

Existing mechanisms do not encourage efficient local generation at a scale which could significantly contribute to the National Electricity Objective.

Australia has one of the most complex and extensive energy systems in the world, yet with low rates of decentralised energy installed capacity or contribution to peak electricity demand. This directly reflects how current mechanisms are not working.

Decentralised energy provides value by avoiding or deferring the need for less efficient business as usual network expenditure. Energy rules need to recognise this as part of an economic, flexible and secure supply solution.

The proposed rule change would provide significantly greater transparency, certainty and consistency for effective whole of system planning

The Commissions preferred rule (page ii)

- *"The requirement to publish a 'system limitation report' supplements current requirements on each DNSP to publish a distribution annual planning report...*

- *"By providing key information about system limitations in a consistent and accessible manner, the report will allow providers of non-network solutions to focus on locations where their solutions could be used to defer or reduce the need to invest in the network....*

The City supports the requirement to publish a systems limitation report, but the Commission has not provided any evidence that simply providing information about where system constraints are located will address the structural barriers to efficient levels of local generation.

Moreover, given recent work on network opportunity mapping by the network operators and the Institute for Sustainable Futures, the preferred rule change would mandate a less useful process to what is largely already in place.

The proposal by the Commission will not address the distortions and inequities demonstrated by the rule proponents.

The Commissions preferred rule change is insufficient to encourage optimal amounts of efficient local energy generation and is unlikely to be preferred by proponents of decentralised energy or the energy networks.

The Marsden Jacob Associates[1] report for the Commission states there "is sufficient prima facie evidence to suggest that the design, placement, sizing and net exports (minus the co-located load) of embedded generators could be influenced by the price structure of the network credits."

The electricity rules need to acknowledge and return a fair share of the benefit created by local energy on a system wide basis, not only for network constrained areas. The Commissions preferred rule does not address this.

Network charges are not cost-reflective (page v)

- *"The rule change request has been made at a time when mechanisms such as cost-reflective distribution pricing and the DMIS are being implemented. These mechanisms, together with other existing mechanisms, can meet the majority of the proposal's objectives.*

The network charges for local generators are not cost-reflective. A local generator that exports electricity next door, down the street or to a neighbouring block does not use the transmission network (and only a small fraction of the distribution network).

Yet electricity consumers pay the same network charges for output from local generators as for electricity from power stations in remote areas such as Hunter Valley, Latrobe Valley or Central Queensland.

By reducing network loads, local generation can avoid or defer investment in network augmentation and maintenance and replacement costs. It is equitable, efficient and economical for local generators to receive a share of the value saved by avoiding or deferring the need for network investment.

The mechanisms such as cost-reflective distribution pricing described by the Commission are insufficient to recognise the value of local generation as proposed by the City's rule change.

Benefits outweigh the cost (page vi)

- *"The form of LGNC proposed in the rule change request would establish a new payment relationship between DNSPs and embedded generators. Even if LGNCs were to be processed by retailers, rather than by DNSPs, there will be material costs in arranging payments to embedded generators that are not also retail customers. It is clear that, no matter the design, LGNCs are likely to be a costly mechanism to implement and administer. These costs would be passed on to consumers and would likely result in higher electricity charges for all consumers.*
- *"Analysis by AECOM for the AEMC that is published with this draft determination shows that, even where there is a projected system limitation,*

[1] Marsden Jacob Associates: Modelling the Value of Local Generation Network Credits, 2 June 2016 http://www.aemc.gov.au/getattachment/c17dd711-6530-407f-b143-1fa6da979f7b/Marsden-Jacob-Associates-Modelling-the-Value-of-Lo.aspx

LGNCs can significantly increase costs to consumers while offering little or no deferral of network investment.

The City does not agree with the assessment by the Commission that there is no value to customers system wide from the proposed rule change to support local energy or that the costs of the LGNC would outweigh the benefits.

Fundamentally, the Commission has not accepted the findings of the modelling by the Institute of Sustainable Futures (ISF) because of a different assumption in the rate of growth in peak demand to 2050.

The ISF assumes peak demand grows by 0.6% per annum, but the Commission notes that if the Australian Energy Market Operation (AEMO) central scenario of 0.2% growth holds costs will outweigh benefits.

Another way of expressing this is that the Commission's choice to not implement an LGNC will lead to higher consumer prices unless peak demand is almost static for the next three and a half decades.

Given the significant errors in recent forecasts of peak demand, the timeframe of these forecasts and the major changes to energy markets that can be expected by 2050, we do not consider that this is a credible basis for rejecting the findings of a net benefit by the ISF.

A significant amount of resources went into the ISF work including Australian Government grant funding through ARENA. It is irrational for the Commission to have dismissed the ISF analysis in preference for the selective AECOM analysis[2], especially given the limitations outlined within that report.

The ISF modelling shows a **net benefit of $1.2 billion dollars** to 2050 from local generation network credits combined with local electricity trading. This clearly warrants further consideration by the Commission.

In rejecting the rule change, the Commission has chosen to ignore the modelling of ISF and the positive assessment by Marsden Jacob Associates that it had commissioned, instead to place emphasis on the modelling by AECOM.

The ISF will provide a more detailed response but the City notes the AECOM modelling "only considered solar PV as it was forecast to be the main beneficiary of LGNC payments according to analysis by Marsden Jacob for the AEMC".

In reality there are multiple forms of decentralised energy and multiple ways in which the proposed rule could be modelled. Any determination on local generation must also consider other forms of local generation such as gas fired co or trigeneration, wind and bio-energy.

The City and other rule change proponents indicated to the Commission that they would have no objections to size limitations on the LGNC. If limits were applied, small scale solar PV would not be the main beneficiary.

[2] AECOM: Modelling the Impact of Embedded Generation on Network Planning, 29 August 2016 http://www.aemc.gov.au/getattachment/03244dd5-41de-4c01-8366-ee71ee1ed4b9/AECOM-Modelling-the-Impact-of-Embedded-Generation.aspx

The AECOM report clearly states upfront that "analysis undertaken in this report are limited by a range of factors including the accuracy of inputs, modelling assumptions and simplifications to the distribution network planning process".

The selective modelling of solar PV alone by AECOM is not considered sufficient for the Commission to use as the basis to support its draft determination.

The Commission is also concerned that new payment arrangements could lead to additional cost. However, the majority of LGNC payments would occur via retailers, rather than new arrangements. The Commission should test the option of making an LGNC only available via retailers.

Efficient economic outcomes (page vi)

- *"The design of LGNCs is also likely to result in certain types of embedded generators receiving significantly larger payments than other generators. In particular, controllable diesel and gas-fired generators would be likely to receive much larger payments than solar PV or wind generators of a similar size. Oakley Greenwood, in a report submitted by one of the proponents, notes that export credits in New Zealand mainly encouraged large customers with diesel generators to use them more or install larger generators than they would have otherwise.*

The New Zealand distributor unsurprisingly established that the customers who best responded to the credit scheme were large commercial customers. The credits had little or no effect on investment in household solar PV.

To the extent that the New Zealand model is comparable with Australia, this suggests that overinvestment in solar PV will not arise from a system of credits. It also tends to show that a credit system will do exactly what it should do – i.e. reward generation that can respond in periods of critical network demand.

This outcome is quite the opposite of favouring a particular technology (a favoured concern of critics of the LGNC), as stated in the draft determination. Rather, it is about getting efficient economic outcomes.

Page 11-12 of the same Oakley Greenwood report (*Potential Effectiveness of an LGNC Price Signal*) states: "*it is reasonable to conclude that the implementation of an LGNC would result in a predictable increase in local generation at times pre-identified by networks, in response to local network congestion*.

The case for a broad based approach (page vii)

- *"LGNCs would be a broad mechanism and would not reflect the highly specific impact of embedded generation on network costs. That means LGNCs would incentivise embedded generation in areas where there is spare capacity and network costs cannot be reduced, and provide insufficient incentives to embedded generation in constrained areas where there is potential to defer or avoid investment in the network. The LGNC proposal fails to account for the importance of location in determining the value that may be provided by embedded generation.*

- *"The Commission considered whether the proposed LGNC mechanism could be amended to be made more specific. However, LGNCs would then resemble existing mechanisms such as network support payments. That, in turn, would weaken any justification for introducing LGNCs as an additional mechanism.*

The Commission has not provided evidence about how cost-reflective distribution pricing can address the objectives of the rule change. Cost-reflective network pricing aims to address current and future consumption, and is not an adequate alternative to address production as proposed in the rule change.

Network payments are discretionary, opaque and negotiated in heavily asymmetric power relationships. Given the asymmetry of the relationship between networks and small generators in particular, a system of LGNCs is only fair and reasonable. By contrast with network support payments, LGNCs would be on public view, formally regulated and specific.

Proponents of the rule change considered a range of mechanisms, including restricting the scope to areas where augmentation or replacement is imminent, restricting the application of the credits to new generators, or to callable generation. However, these mechanisms do not resemble existing network payments.

The City is disappointed that the Commission did not examine other intermediate mechanisms more exhaustively, as anticipated following the March 2016 workshop in Sydney.

Technology neutrality (page 18)

- *"LGNCs are specifically targeted at embedded generation, rather than the broader class of non-network solutions. This runs contrary to the Commission's objective that, as much as practical, the NER should be neutral to the technologies used. Technology-neutrality allows the market to develop and innovate without one type of technology being given an advantage over others. When the market is allowed to innovate without interference, the choices that consumers make determine which technologies prevail. The LGNC proposal would distort consumer choice by favouring embedded generation over other non-network solutions (such as demand response).*

This analysis assumes that local generation is regarded in the same manner as local consumption and that local generation is an alternative to network management of local consumption. This is not a reasonable comparison.

Local generation is better viewed as an alternative to remote (transmission based) generation and investment in efficient local generation is better viewed as an alternative to investment in efficient remote generation - efficient being equated with network costs over time.

Distribution networks ought to prefer efficient local generation where the cost that it imposes on networks over time is less than the cost that transmission based generation imposes on networks over time. That is the logical comparison.

The balance of evidence supports the case presented by the City of Sydney and others that a network with a higher proportion of efficient local generation is likely to have lower transmission costs (and hence lower total system costs).

The LGNC is meant to complement other mechanisms which aim to provide alternatives to network augmentation via demand response or energy efficiency, in particular the Demand Management Incentive Scheme (DMIS) scheme.

The net cost of local generation (page 18)

- *"The rule change request states that LGNCs should be set such that embedded generators would be paid in full for the benefit they may provide, but would not be charged for any net costs they impose on DNSPs. It proposes that those costs should be recovered from all other customers. This kind of asymmetric arrangement is likely to incentivise over-investment in embedded generation at a cost to other customers.*

This is not a correct reading of the rule change proposal. The rule change states that, where local generators do impose costs on networks, the LGNC should be calculated net of those costs, with a limit of zero.

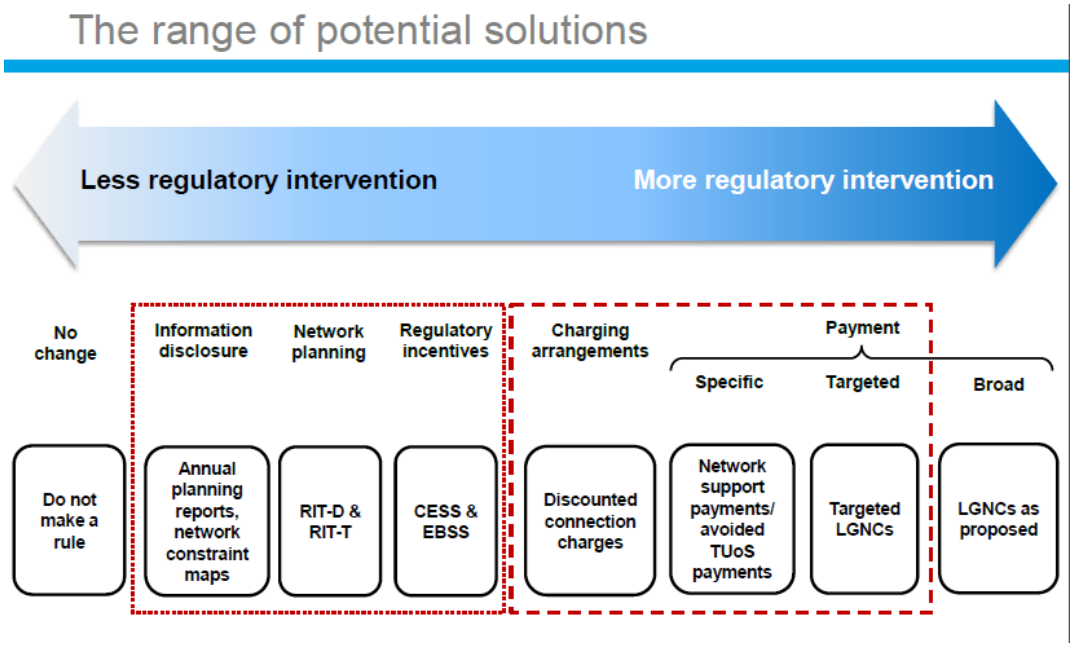
Networks already have mechanisms to recover connection costs. Whether or not they chose to use them (or public policy dictates that they do not use them) should not be a reason for disadvantaging efficient local generators.

Making a more specific rule (page 21)

- *"The Commission assessed carefully both the proposal and different LGNC arrangements that could form the basis of a more preferable rule. This chapter does not outline alternative LGNC arrangements, but rather assesses whether any LGNC arrangement that meets the broad characteristics described in the rule change request would be likely to contribute to the NEO.*

The draft determination claims that the Commission considered whether to make a more specific version of LGNCs. The extent to which the Commission actually did do this is a moot point.

Below is a summary of the range of options that could have been considered more extensively, taken from the Commission's presentation at the stakeholder workshop in Sydney in March 2016.


The range of potential solutions
Less regulatory intervention
More regulatory intervention
No change
Information disclosure
Network planning
Regulatory incentives
Charging arrangements
Payment
Specific
Targeted
Broad
Do not make a rule
Annual planning reports, network constraint maps
RIT-D & RIT-T
CESS & EBSS
Discounted connection charges
Network support payments/ avoided TUoS payments
Targeted LGNCs
LGNCs as proposed

Part C - Plausible alternatives must be considered

Recommendation

The Commission should consider alternative options for regulatory change that respond to the Commission's concerns in the draft determination outlined below.

The clear preference for the City and other proponents would be for the Commission to revisit its assumptions, recognise the benefit of what is being proposed, and accept the original rule change proposal. This is the preferred position.

Alternatively the City requests the Commission actively engage with key stakeholders to develop and implement an amended proposal to both meet the aims of the original rule change proposal while alleviating concerns of the Commission in relation to consumer prices.

Equitability of generators needs to be considered within the assessment framework. It is not equitable that a local generator that does not use the transmission network and makes much reduced use of the electricity network is compelled to experience the same cost to deliver electricity to the consumer as very large remote generators.

Building on alternative options presented by the Commission at the April 2006 workshop, three options are presented below.

Option 1 - Limiting the scope of LGNC's (preferred alternative)

This option would place obligations on Distribution Network Service Providers (DNSPs) to develop a schedule of LGNCs as per the submitted rule proposal but address concerns of the Commission by:

- Limiting the scope of eligibility to LGNCs to new generators sized from 30kw to 5MW; and
- Aligning benefit sharing with the Efficiency Benefit Sharing Scheme by requiring DNSP's to set the LGNC at 70 per cent of the identified value to ensure benefits for generators and consumers.

The City notes the modelling by Marsden Jacob Associates for the Commission found that excluding household PV would reduce the annual LGNC payments to $13 million. Aligning with the Efficiency Benefit Sharing Scheme would further reduce the size of payments.

In the short-term, the estimates of Marsden Jacob Associates for the Commission indicates that there is little to no risk of a material impact on consumer prices. Reducing the annual LGNC payments to $13 million is the **equivalent to about one-tenth of one per cent** of total network expenditure.

This option is preferred because it establishes a framework which the City believes will be more effective at setting efficient network charges for local generation in future decades, even if it provides limited benefit to local generators in the immediate future.

A slow start would also enable thorough evaluation of the rule and its operation without material impacts on consumer prices.

Option 2 - An obligation for an LGNC equivalent to 70 per cent of the value nominated by the DNSP through the more preferred rule on a network constraint

This option extends the Commissions preferred rule and addresses the substantive concerns of the Commission about impacts on consumer prices as it is limited to locations with network constraints and the value is set by the network.

Eligibility would be limited to new generators from 30 kilowatts to 5 megawatts and payable on production in peak periods. 70 per cent is consistent with the value sharing in the Efficiency Benefit Sharing Scheme.

The Commission has noted this would be an extension of the existing Network Support Payments, but has not presented a credible response to the barriers that exist for smaller and medium-sized generators to access Network Support Payments (especially the transaction costs).

The precedent of the UK – and indeed the methodology in the modelling by Marsden Jacob Associates for the Commission – demonstrates that an administratively efficient and fair methodology and schedule of rates could be developed for local generation network credits.

Option 3 - Exempt local generation from transmission network charges

This option is presented as a stand-alone option but should be implemented in combination with option two if selected. This model involves remitting all or most of transmission costs (the sum of both variable and fixed transmission charges) on the basis that local generation makes no use whatsoever of the transmission network.

The Commission has stated that exemption from transmission charges is not appropriate because it represents a charge for connection. However, distribution and transmission network charges are differentiated in a range of contexts.

It is inequitable and inefficient for transmission charges to be applied to local generation.

Remission of transmission charges could be offered either on a time-of-use basis (this seems preferable from a signalling point of view) or unadjusted pro rata which may be suitable as an interim arrangement.

Eligibility might focus on those parts of networks where refurbishment/replacement or augmentation/improvement of security is relatively imminent, a process that could be undertaken by networks themselves.

The existing avoided TUoS charge regime does provide a limited pricing signal for efficient local generation under Chapter 5 and 5A of the National Electricity Rules. However, this proposal would provide a stronger price signal (by including fixed and variable charges), reduce administration, and expand eligibility.

What is needed is a more balanced perspective on how to benefit from local generation, predicated on the recognition in other Commission documents - for example, the consultation paper for the System Security Market Framework Review - that local generation is an increasingly important component of the overall electricity generation system, and not simply a network management option.

Part D - Feedback on rule change process

As the introduction to this submission makes clear, the City is deeply disappointed the Commission has foregone a major opportunity to better manage the growth of local electricity generation.

Unfortunately, the Commission chose not to work further with stakeholders (for example, via the further development of options) to refine the rule change proposal or in the assessment of costs and benefits.

For example, initial modelling by Jacob Marsden Associates was undertaken without incorporating key feedback from expert parties like the Institute for Sustainable Futures that were undertaking in-depth research with the assistance of significant government funding (via ARENA).

More recent modelling by Aecom was also undertaken without discussion with the rule change proponents, and did not incorporate understandings or observations that had already been drawn out through the extensive modelling undertaken by the Institute for Sustainable Futures.

While the Commission is of course at liberty to undertake modelling quite separately, this is less productive than a more collaborative engagement.

Concerns of the Commission could be alleviated for example by setting parameters around the size or age of eligible local generation.

In part, this seems to come from an incomplete reading of the City's proposal. For example, the Commission's initial consultation paper ignored the time of use component of the proposal and the possible inclusion of a locational element referred to in the submission that accompanied the rule change request.

In part, this seems to come from a lack of will to recraft the proposal to ensure that it best meets the test of consumer benefit. For example, having labelled the proposal as a wealth transfer between system participants, and having asked whether a sharing between parties needed to occur, the Commission has not then taken the opportunity to see how consumers could better benefit.

Probably, the most disappointing element of the rule change process is the Commission's decision to close off opportunities that could have allowed for more extended investigation of options. Having identified a broad spectrum of options, the exploration of options then went no further.

At its March 2016 workshop in Sydney, the Commission identified a spectrum of changes that might be considered, from simply improving the availability of information (as per the draft preferred rule change) through to an expanded system of network payments, or avoided transmission use-of-system charges, to a locational credit payment, to a broad based credit payment.

Elements of the proposal have been refined during the rule change process in response to comments in the Commission's consultation paper, in response to feedback from other stakeholders and in response to insights gleaned from the economic modelling carried out by the Institute for Sustainable Futures.

Considerable resources were expended in crafting the initial rule change request, and substantial resources were contributed by a range of public agencies to the quantitative assessment of the impact of the rule change, including to modifications to better meet various critiques and observations offered up along the way.

In the City's view, the development of a consensus on how best to integrate local generation into the future of the overall electricity supply system was warranted in response to the rule change request, whether or not this took place in the way envisaged in the rule change.

What's been missed?

At the broadest level, the Commission did not even consider whether a different rationale might justify the payment of a local generation network credit.

The Commission argued that the rule change request was not predicated on the merits of a partial use of system charge or the merits of cleaner electricity. Accordingly, it considered that such issues did not need consideration.

Narrowly considered, that may seem reasonable. However, it could also suggest a lack of willingness to consider the role of the electricity supply regulatory framework as part of the public policy debate about future energy supply.

At least in part, the Commission argues, this is because it is not competent to go beyond the National Electricity Objective as currently expressed.

Yet this is exactly the concern exercising the minds of other parts of government, both through the commitment at national level to achieve a major reduction in carbon emissions in the next decade and in the commitments by several state governments to a cleaner electricity supply.

To that extent, the course of the rule change assessment points to a need for reform of the National Electricity Objective.

Part E – Other important issues

Reliability

Recent events highlight the potential benefits of having a larger proportion of local generation as part of individual networks. The temporary failure of the Basslink interconnector in Tasmania for example demonstrated the importance of local generators such as gas generators, distributed solar PV and on-site storage.

> *"**Distributed renewable energy generated and consumed at the local level has the potential to strengthen the electricity grid, not weaken it.***
>
> AGL Energy CEO Andy Vesey[3]

The COAG requested review *Blueprint for Energy Security in the National Electricity Market* by Australia's Chief Scientist Alan Finkel is predicated on a more decentralised generation system in the context of other factors to ensure the security and reliability of the National Electricity Market.

Accordingly, before making its final decision, the Commission should assess and consider the potential for improved energy security which could result by the proposed rule change.

Climate change

The City recognises that climate change is not a head of consideration in the Australian electricity regulatory framework. However the Paris Agreement on Climate Change comes into force on 4 November 2016 with Australia expected to ratify before the end of 2016.

This is a global agreement to keep average warming to 2 degrees or below which will require most sectors of the global economy to have zero or nearly zero emissions by 2050 or sooner. Clearly this will have major implications for the energy supply system in Australia.

> Terms of reference for the recent *Blueprint for Energy Security in the National Electricity Market* specifically include the impact of carbon mitigation policies at both the Federal and State level on energy markets and the integration of climate and energy policy. The Commission should delay its final determination on the rule change until after the Blueprint is finalised to ensure that its recommendations are consistent.

The City contends that environmental costs should be recognised as part of the total costs associated with electricity supply or, to use the language of the Commission's own consultation paper, "total system cost".

If the impact of climate change is not directly included, it should form part of the Commission's considerations for minimising risks and costs for future consumers.

[3] http://www.afr.com/news/agl-energy-ceo-andy-vesey-says-renewables-are-much-more-secure-20161003-gru8oi#ixzz4OMD8HHcR

Economic modelling has consistently found it is cheaper to reduce greenhouse gas emissions earlier, and warned against the costs of infrastructure 'lock-in' due to pricing frameworks which do not incorporate a cost for carbon – especially if rapid cuts in emissions are required in the future.

The City acknowledges the position of the Commission that climate change is beyond the scope of its rule-making power, but observes this is an unsustainable situation that will have impacts on consumer prices if left unaddressed.

A more holistic approach that considers how best to ensure security of supply and minimise consumer prices while transitioning to a low carbon economy is essential.

If the Commission continues to define climate change targets as out of the scope of their regulatory determinations, then reform of the National Electricity Objective is required to ensure there is alignment between climate policy and energy market regulation

Conclusion

The draft determination by the Australian Energy Market Commission on the Local Generation Network Credits (LGNC) rule change request submitted by the City of Sydney, the Total Environment Centre, and the Property Council of Australia is based on insufficient assessment of the possible benefits.

Further work is required by the Commission to conduct impartial modelling which includes a more realistic energy mix of the future rather than a solar PV only assessment.

Extensive modelling by the Institute for Sustainable Futures shows greater than $1 billion in system savings that could occur in NSW alone by implementing changes similar to what has been proposed. The Commission needs to genuinely investigate and build on this analysis before making its final determination.

The alternative preferred rule change proposed by the Commission to place an obligation on networks to release information on network constraint areas is already occurring in a more accessible format than the Commission is proposing. It would provide limited value and be an additional burden on the networks.

Contrary to the views by the Commission that existing mechanisms are sufficient to support the update of distributed generation, the low rates of uptake would indicate otherwise. Network support payments have been in the order of 0.03 per cent of total network expenditure which clearly indicates a market failure.

Implementation of the LGNC rule change proposal could lead to lower network tariffs for consumers over the long term; be relatively inexpensive to implement and administer; and would increase the number and output of efficient local generators leading to a more efficient system overall.

Monica Barone
Chief Executive Officer

3 November 2016

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